

INTERNET COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year) 16 February 2001 (16.02.01)	Applicant's or agent's file reference 99061 PCT
International application No. PCT/EP00/04993	Priority date (day/month/year) 08 June 1999 (08.06.99)
International filing date (day/month/year) 29 May 2000 (29.05.00)	Applicant KASPERKOVITZ, Wolfdietrich, Georg

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
04 January 2001 (04.01.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 99061 PCT	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP00/04993	International filing date (day/month/year) 29/05/2000	Priority date (day/month/year) 08/06/1999
International Patent Classification (IPC) or national classification and IPC H04B1/52		
Applicant SEMICONDUCTOR IDEAS TO THE MARKET(ITOM) B.V. et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 11 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 04/01/2001	Date of completion of this report 17.09.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Koch, B Telephone No. +49 89 2399 7303 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/04993

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

7-11 as originally filed

1-6 as received on 08/08/2001 with letter of 08/08/2001

Claims, No.:

1-10 as received on 08/08/2001 with letter of 08/08/2001

Drawings, sheets:

2/6-6/6 as originally filed

1/6 as received on 08/08/2001 with letter of 08/08/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/04993

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-10
	No:	Claims	
Inventive step (IS)	Yes:	Claims	5-6,9-10
	No:	Claims	1-4,7,8
Industrial applicability (IA)	Yes:	Claims	1-10
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement

1. Reference is made to the following documents:
D1: US-A-5444864
D2: US-A-4660042
2. The document D2 is regarded as being the closest prior art to the subject-matter of present **claim 1**, and discloses (the references in parentheses applying to this document):
A communication device comprising a transmitter (*cf. 20,17,22 in Fig. 1*) and a receiver (*cf. 15 in fig. 1*), coupled to antenna means (*cf. 12,13 in fig. 1*) respectively via a transmitter output and a receiver input, as well as corrective signal means (*cf. 40-72 in fig. 1*) for reducing a transmitter leakage signal (*cf. 11 in fig. 1*) at the receiver input (*cf. lines 12-14 in col. 1*) and provided with a transmitter signal reference input (*34 in fig. 1*) being coupled to the transmitter output, a transmitter leakage signal input (*cf. 76 in fig. 1*) being coupled to the receiver input (*cf. the input node of 15 in fig. 1*) and a transmitter leakage signal output (*cf. the output of 62 in fig. 1*) being coupled to said transmitter leakage signal input (*through 63 in fig. 1*) thereby forming a negative feed back (*cf. the signal path from the output of 62 to the input of 64 in fig. 1*; *The output signal of the "corrective signal means" is fed back together with the "transmitter leakage signal 11 to an input of the "corrective signal means" of the transmitter leakage signal (cf. 11 in fig. 1) occurring at the receiver input.*
3. The subject-matter of claim 1 differs from this known device in that:
 - a) the corrective signal means comprises transmitter leakage signal selective amplification means (*cf. col. 3, lines 55-57*) for selectively amplifying said transmitter leakage signal;
4. An objective problem over D2 can thus be formulated as "how to raise the signal level of a weak signal in the transmitter signal reference input path (*34 in Fig. 1*)".

5. It is obvious for a skilled person, when faced with the problem raised above, to employ an selective amplifier in the signal path of line 34 in order to raise the corresponding signal value. The skilled person would thereby arrive at the claimed invention without inventive thinking. Hence the subject-matter of **claim 1** does not employ an inventive step in the sense of Article 33(3) PCT.
6. The following dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows:

Claim 2:

A phase splitter is disclosed in D2 (cf. 40 in fig. 1). It is obvious for a skilled person, in order to avoid the high requirements of filters which operate on a center frequency which is much higher than the filter bandwidth, to demodulate the phase-split signals in D2, to filter the demodulated signals e.g. in a lower IF range and re-modulate it on the respective carrier. This technology is general knowledge in the art of signal processing, hence the features relating to this technology in claim 2 are obvious.

Further, the employment of "phase inverting means" in a signal path is a mere juxtaposition of well known devices which a skilled person would use to adapt a signal to a certain phase condition. Attention is drawn to the fact that, apparently, there is no interaction or working- interrelationship between the "phase inverting means" and the other features of this claim (see Guidelines C-IV, Annex, 2.1).

Thus, the subject matter of claim 2 cannot be considered as involving an inventive step (Article 33(3) PCT).

Claims 3,4,7,8:

These claims are not inventive, because their subject-matter merely relates to the application of measures which are well-known in the art of operating communication devices. A skilled person would therefore, in order to improve the operation of the communication device, obviously employ the features of these claims without involving an inventive step as required by Article 33(3) PCT.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP00/04993

Re Item VII

Certain defects in the international application

1. Although **claim 1** is drafted in the two-part form, some of the features known from D2 are incorrectly placed in the characterising portion, as they are disclosed in document D2 in combination with the features placed in the preamble (Rule 6.3(b) PCT).
2. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D2 is not mentioned in the description, nor is this document identified therein.

Re Item VIII

Certain observations on the international application

1. The claims have been amended based on originally filed claims and page 6, lines 18-31 and figure 1, in accordance with Article 34(2)(b) PCT.

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 99061 PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/ 04993	International filing date (day/month/year) 29/05/2000	(Earliest) Priority Date (day/month/year) 08/06/1999
Applicant SEMICONDUCTOR IDEAS TO THE MARKET (ITOM) B.V.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of Invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 00/04993

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04B1/52 H04B1/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4 660 042 A (EKSTROM JOEL L) 21 April 1987 (1987-04-21) column 2, line 4 - column 4, line 6; figure 1 ---	1,2,7,8 3-6,9,10
X A	US 5 444 864 A (SMITH WINTHROP W) 22 August 1995 (1995-08-22) column 1, line 16 - line 52; figure 3 ---	1,2,7 3-6,8-10
A	EP 0 390 354 A (NOKIA MOBILE PHONES LTD) 3 October 1990 (1990-10-03) the whole document -----	1-10

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 September 2000

Date of mailing of the international search report

18/09/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Andersen, J.G.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/04993

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4660042	A	21-04-1987	NONE	
US 5444864	A	22-08-1995	NONE	
EP 0390354	A	03-10-1990	FI 82335 B	31-10-1990
			AT 117859 T	15-02-1995
			DE 69016238 D	09-03-1995
			DE 69016238 T	07-09-1995